Mandated Wage Increases and Gift-Exchange in Labor Markets

Undergraduate Research Thesis

Presented in partial fulfillment of the requirements for graduation with *honors research distinction* in Economics in the undergraduate colleges of The Ohio State University

by

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April 2017

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ABSTRACT

Using an experimental methodology, I examine the productivity effects of increases in wages due to an externally imposed mandate in comparison to wage increases due to the generosity of the employer. This paper also introduces a new experimental framework for exploring the concept of gift-exchange in labor markets using groups of participants acting as employers and employees on a real effort task. We find that there is a significant effect of wages on effort levels. In addition, we find that when wages are increased due to an external mandate—all else equal—workers increase their effort levels by less than if their wages were increased due to an active choice by their employer.

ACKNOWLEGEMENTS

This experiment was funded through the Economics-URO Summer Research Fellowship and the STEP Fellowship from the Ohio State University. I would like to thank Professor Katherine Coffman for introducing me to the field of experimental economics and helping me design and carry-out this experiment. I would also like to thank my advisor, Professor PJ Healy, for his invaluable advice in analyzing my data and writing this thesis. Finally, I'd like to thank Professor Bruce Weinberg for both his help with this project and for encouraging my involvement in research in economics.

I. Introduction

With many politicians and economists alike supporting an increase in the minimum wage, it is important to consider the economic consequences of such a policy. Several politicians and public figures reference research regarding gift-exchange in labor markets in their support of raising the minimum wage. Existing research suggests that offering employees above-equilibrium wages results in employees providing effort levels beyond those otherwise required. Some argue that increasing the minimum wage would have the same effect. Higher productivity levels from workers would then offset some of the costs incurred by the employer for giving higher wages. One proponent of this concept is Costco Senior Vice President Jeff Long who claimed, concerning raising the New York minimum wage, "Instead of minimalizing wages, we know it's a lot more profitable for the long term to minimize employee turnover and maximize productivity." But might there be a difference in Costco paying its workers more and the government *ordering* Costco to pay its workers more? The literature of gift-exchange seems to suggest that it is a model based on reciprocity and generosity. An employee who receives a wage increase due to an external mandate might not feel the same desire to reciprocate as one who receives a wage increase due to an active choice on the part of their employer.

I use a laboratory experiment in order to test this hypothesis. Using a novel design featuring simulated labor markets and a governing entity, I was able to isolate the effect of the context of an external mandate on worker productivity. The results confirm my hypothesis—workers do not respond to wage increases due to government policy in the same way that they respond to employer-chosen wage increases. While under both contexts workers increase their productivity after receiving an increased wage, this increase is significantly larger when the employer chooses the wage rather than being forced to increase the wage.

II. Existing Literature

The existing belief that higher wages can cause higher worker productivity stems largely from a concept of economics called "gift-exchange." The term gift-exchange refers to when goods or services are given from one party to another with no explicit request or demand for reciprocity. Instead of being governed by market forces, gift-exchanges are controlled by social norms. In his seminal 1982 paper, George Akerlof made the claim that labor markets are actually partial gift-exchanges. He comes to this conclusion after finding that, in the field, many workers greatly exceeded minimum work standards, despite being paid a flat rate for their efforts. In labor market gift-exchange, Akerlof claimed that workers exchanged a "gift" of work more than the minimum work standard and, in exchange, the firms gave the "gift" of wages above what workers could receive if they left their current jobs. While this paper used empirical data to create a theoretical model for gift-exchange in labor markets, further research in gift-exchange was largely dominated by experimental economics.

One such paper was written by Fehr et al (1993). In their experiment, as with many that explore the topic of gift-exchange, they created a labor market in which some participants are employers and some are employees. Employers select wages they would pay workers, and workers choose levels of "effort." The pay-outs of employers depend on the effort levels of workers, while the pay-outs of employees depend on the wages set by their employers. Using this methodology, Fehr found that workers' efforts varied positively with wage payments. That is, when workers were paid more they typically chose higher effort levels. This finding supports Akerlof's beliefs that the labor market is a partial gift-exchange.

Another experimental study by Brandts and Charness (2004) looked more specifically at the effect of having a minimum wage on workers' effort levels in these gift-exchange conditions.

They did this by creating a treatment in which the employers in the game could not offer wages below a certain amount. They found that the mere inclusion of a minimum wage caused effort levels to decrease, especially at wages near the minimum wage. One reason this may have happened was that workers attributed less of the wage amount as a "gift" from the employers, and thus felt less need to exchange a gift of higher effort level in return. Thus, one could conclude that the type of reciprocity generated in gift-exchanges is due to the perceived kindness and generosity of the firm, rather than the raw absolute value of the gift in question. This conclusion is backed by a theoretical framework laid out in Rabin (1993). In this paper, a model of fairness-based reciprocity is proposed. Such a reciprocity is driven by concepts of niceness and fairness on behalf of both parties, and equilibria created from these standards could vary from those obtained via normal economic standards for equilibria.

Another recent study, Gilchrist et al (2013), looks closely at how the context of wages influences worker effort. In order to vary the contexts of given wages, this study makes use of a field experiment with a real-effort task. The experiment consisted of three treatments. In the first, workers are paid a wage of $3. In the second, the workers are paid a wage of $4. In the last treatment, participants are told they will be paid a wage of $3, but then shortly before commencing work they are told that they will be paid an extra $1 as well. Despite the differences in wage, workers in the first two treatments produced similar levels of output. In the third treatment, however, workers were significantly more productive, despite their absolute pay being the same as in the second treatment. The explanation for this phenomenon is that in treatments one and two, the wage is simply perceived as the "going-rate" for the work, eliciting similar productivity outputs. In the third treatment, the extra $1 is perceived as a gift above the "going-rate" from the employer, and thus the workers reciprocate with higher levels of output. Thus, the context seems

to be of high importance in determining the productivity effects of a certain wage. This conclusion supports my hypothesis that the context of a mandated wage increase would affect worker productivity outcomes.

While the field of gift-exchange has been thoroughly explored by experimental economists, there is still room for further examination. From previously done work, we know that employees are likely to increase their efforts given an increase in wages. We also see that a key reason this exchange happens is because of social norms to reciprocate kindness and fairness. However, most gift-exchange papers look at one-shot games. That is, they tend to look at how workers respond to the initial wage offered by employers and do not often look at what happens to workers' effort when an employer decides to *change* the wage of their workers. Specifically, one area that has remained rather unexplored, is how the actual context of wage increases affects worker productivity. While Gilchrist et al found that the framing of a wage increase as a "gift" increased worker productivity, I found no other papers discussing other possible contexts of pay raises. Brandts and Charness found that productivity decreased given the *introduction* of a minimum wage, but no experimental papers to my knowledge look at the productivity effects of an increase in an already existing minimum wage, which is possibly more relevant to the current state of the U.S. labor market. Thus, this paper introduces a useful extension of existing literature.

III. DESIGN

In order to test my hypotheses, I have developed an experimental framework to model a small labor market within a laboratory setting. This experimental framework was conducted using the software Z-Tree, in the Economics Lab at Ohio State (Fischbacher 2007). Each session of the experiment was composed of between 12 and 30 participants, with participants randomly sorted

into groups of six. Each group acts as a simulated "firm" with one "employer" and five "employees".

The employer of each group is responsible for choosing the wages of the employees, under restrictions imposed by the experimenter. The employees receive these wages in exchange for providing labor in a real-effort task. This task is adapted directly from the "slider" task proposed by Gill and Prowse (2012). In this task, participants are shown a digital "slider" located on a line segment (an image of this task is located in the Appendix). To complete one "slide", participants must click and drag the slider to the middle of the segment, where the slide takes on a value of "50". Performance in this task has been shown to be very responsive to levels of participant effort, and thus provides us an excellent task to assign to employees in order to gauge their effort levels. As is standard in labor market gift-exchange experiment designs, the payouts of the employers and the employees are determined as functions of the effort levels of the employees (in the form of raw output in the slider task) and the wages set by employers. The pay-out for employees was equal to the wage selected by their employer for the given work period. The pay-out for employers is determined by the following formula:

$$Employer\,Payout = \$10 - Wage + \$0.40 * Effort$$

That is, employers begin with an allotment of $10 for each round. Their final payout is equal to this initial allotment, minus the wage selected for a random employee, plus $0.40 for each slide this random employee completes. The payout of the employer was determined based off only one of their randomly selected employees. The payout for all participants was determined only from one randomly selected round. All of this information is available to all participants throughout the duration of experiment.

A session consists of five three-minute rounds of work. The employer does not see the effort levels of employees for any current or previous rounds, until the end of the experiment. Before each round of work, the employer sets the wages of each employee, under restrictions that vary by round and treatment.

The experiment consists of three treatments: control, mandate, and gift. The treatments varied by session, with all participants in a session receiving the same treatment throughout the duration of the experiment. Across all treatments, in the first two rounds of work employers are forced to set the wage of each employee to $8. The first two rounds are set at the same wage in order to acclimate participants to the structure of the task. By doing this, effort changes in future rounds are much more likely to be due to our treatments and not due to factors such as learning.

In the control treatment, employees work all five rounds at the constant wage of $8 for each round of work. Including a control group allows us to differentiate the effects of our treatments from other possible explanations.

In the mandate treatment, all participants are notified prior to round three that the employers are now mandated to increase the wage of each employee from $8 to $10. In this treatment, the experimental design allows the experimenter to act as an external governing force, similar to the way the government could force employers to pay higher wages through policy action.

In the gift treatment, all participants are notified prior to round three that the employers now have the choice to raise the wages of each employee from $8 to $10. The employer may choose to give this raise to any number of the employees, including none of them at all. Because no information on previous employee performance is given to employers, this wage increase can only be given as an act of generosity, and not as a response to previous performance (which allows

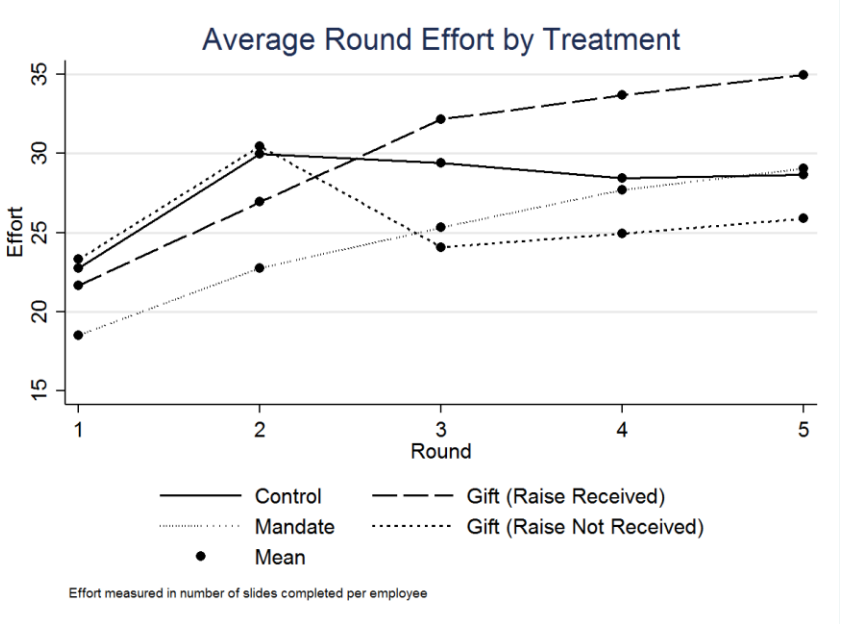
us to avoid endogeneity in the selection of those who receive raises). Throughout rounds three through five, employees will work for either the increased wage of $10 or the previous wage of $8, depending on the employer's choice following round two.

From this experimental design, the main statistic of interest is the change of worker output between rounds. Specifically, we are interested in the difference in these changes between the three treatments. As per my hypothesis, I expected that worker output increases by significantly more in the gift treatment than in the mandate treatment, contingent to wages being increased in the gift treatment. However, I also expected both treatments to experience larger increases in productivity than in the control, which should not see any significant increases in productivity between rounds. Also of interest is the endurance of these productivity effects in each case. By having five rounds of work, we are able to see how long the boost in productivity from these wage increases lasts. Similar to my other hypothesis, I expected the productivity boosts to last much longer in the gift treatment.

IV. Results

Over the course of four months, I ran 18 sessions consisting of 348 total participants. Of these 348 participants, 58 were employers and 290 were employees. Of the 290 employees, 35 were in the Control treatment, 80 were in the Mandate treatment, and 175 were in the Gift treatment. Of the 175 in the Gift treatment, 60 employees received wage increases and 115 employees did not receive wage increases. The demographics of the participants across these various treatments are in the Table (1) in the Appendix. Demographically, these treatments are fairly identical, consisting of similar proportions of genders, majors, and native speaking ability. The control group does have a disproportionate amount of non-native English speakers, however later regression analysis shows that native English speaking is not correlated with effort levels of

participants, so this is not of much concern. Since the demographics of our treatments are inconsequentially different, we can compare the average effort levels by round for each treatment.



Examining the graph above, one can observe the trends in effort levels of employees over time, by treatment. As treatments are identical in the first two rounds across all treatments, differences in effort levels for both rounds are likely due simply to randomness and noise. Between rounds one and two, all treatments saw a very similar increase in average effort levels. This increase is likely due to participants simply learning how the slider task works over time. The treatments begin to distinguish themselves after round 2, when wage increases occur (or in some cases, do not occur). Participants in both the Mandate treatment and in the Gift treatment receive an equal raise of $2.00 for their work. In response, both types of participants increase their effort levels. However, those who receive a wage increase due to an employer gift increase their effort by *more* than those who receive a wage increase due to an external mandate. After round three, both those who receive wage increases in the gift treatment and those who receive them in the mandate treatment continue to gradually increase their effort levels, however these increases are

almost identical. This signifies an initial boost in productivity in workers who receive increases in the Gift treatment that endures, but does not increase, throughout the remainder of the experiment.

In contrast to the treatments where employees receive a raise, in the Control treatment employees receive no raise. In response, the effort levels of employees in the Control treatment seem to stagnate, with little to no change occurring in effort levels past the second round. It is important to note that those in the Control treatment were not aware of any possibility of their wages changing, and thus their trend can be looked at as the natural trend in effort levels over time given conditions such as learning, fatigue, and boredom. Those in the Gift treatment who do not receive a wage increase, however, are aware that a wage increase was possible, even though they did not receive one. As is expected, their effort levels decrease following round two, as a sort of negative reciprocity towards their employer.

Thus, an initial look at our results suggests that our hypothesis was correct. While employees do react positively to a wage increase in any context, they increase their efforts by more when their wage increase is due to employer generosity.

Traditional t-tests agree with this finding, as seen in the following table.

	(1) Gift Vs. Control	(2) Mandate Vs. Control	(3) Gift Vs. Mandate	(4) Gift Not Received Vs. Control
Difference	5.805***	3.134*	2.671*	-5.820
	(3.79)	(2.12)	(2.30)	(-1.84)
N	95	115	140	150

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

The variable of interest here is the difference in effort levels between rounds two and three. Each column represents the difference in these differences between various treatments. Both the differences in the Gift treatment and in the Mandate treatment are significantly greater than in the

Control treatment. Even more importantly, the difference in the Gift treatment is significantly greater than the difference in the Mandate treatment. Thus, we can conclude that effort levels increase by more in the Gift treatment than in the Mandate treatment. While the average difference in effort levels decreases when a gift is not received in the Gift treatment, it is not significantly different from the control group.

Our data is very noisy with a lot of outliers in both directions. Thus, perhaps a more accurate way to test our hypotheses is via a Mann-Whitney Rank Sum Test. Using this test, we found that the differences in effort levels between rounds two and three were significantly different (at p=0.0013) between the Gift and Mandate treatments. Interestingly, when using this test the difference between the Mandate and Control treatments is no longer significant, suggesting the Mandate treatment was subject to more outliers than the other treatments. Thus, Mann-Whitney tests suggest that the increase in effort levels after a mandated wage increase is not significantly different from the increase in effort levels after no wage increase at all.

Also of interest to our hypothesis was the endurance of these effects. That is, to what degree do the treatment effects persist after the initial wage increases. I was able to determine this via regression analysis. Clustering standard errors by subject, I ran the following regression:

$$Effort_{it} = \beta_0 + \beta_1 Round_t + \beta_2 Treatment_i + \beta_3 Treatment * Round_{it} + \boldsymbol{\beta} X_{it}$$

Where $Effort_{it}$ is equal to the number of slides completed by employee i in round t, $Round_t$ is equal to the number of the round past round three, $Treatment_i$ is a dummy equal to 1 if employee i is in the Gift treatment group and equal to 0 if employee i is in the Mandate treatment group. We are able to assume a linear time trend as long as we restrict our regression to rounds three through five (which is when the raise has been implemented).

The results of this regression are located in Table (2) in the Appendix. The significance on the *Treatment* variable confirms the results of our hypothesis tests—there is in fact an initial boost in effort levels of those in the gift treatment over those in the mandate treatment after a wage increase. However, the coefficient of the interaction term is not significant in either specification. The interpretation of this is that those who receive wage increases due to an employer gift do increase their effort levels by more than those who receive them due to an external mandate—however, following this initial boost, their effort levels increase at similar rates. Since time trends of the effort levels are identical between the two treatments after this initial boost in productivity for those in the gift treatment, this boost endures—but does not grow—over time.

At the end of the experiment, participants were also given a brief survey that asked them questions concerning their beliefs throughout the experiment. These beliefs included questions about their perception of their employer's generosity, their own generosity, what they believed a fair wage would be, and in what rounds they put in the most or least effort. T-Tests on the differences in answers to these questions between treatments are in Table (3) in the Appendix.

Perceptions of generosity are measured on a 5-point scale, with 1 being the least generous and 5 being the most generous. Employee perceptions of employer generosity are significantly higher in both the mandate treatment and in the gift treatment when compared to the control treatment. This suggests that effort levels are in fact correlated to employee's perceptions of employer generosity. Likewise, the perceptions of employer generosity are higher in the Gift treatment than in the Mandate treatment; however, this difference is not statistically significant so this cannot be taken as conclusive evidence that employee's believe their employer is being more generous in the gift treatment than in the mandate treatment. Across all treatments employees seemed to agree that a fair wage for their work would be around $10, however this is not surprising

as $10 was the maximum wage choice they could have selected in response to this question. Additionally, rounds where employees felt they put in the most or least effort correlated strongly with their actual raw effort levels (in units of slides completed), suggesting that slides completed was an appropriate measure of employee effort.

V. Conclusion

Using an experimental methodology, I found that levels of gift-exchange in labor markets do vary by context. Central to the concept of gift-exchange are the virtues of generosity and reciprocity. Thus, levels of gift-exchange are highest when these two qualities are most present. These situations include those which are typically referenced in gift-exchange literature, situations where wages are increased simply out of the generosity on the part of the employer. On the other hand, when a government policy such as a minimum wage increase causes wages to increase, levels of gift-exchange are significantly lower. In fact, due to the absence of an element of generosity in these scenarios, wage increases here may not even be considered "gift-exchange" at all, but rather simply an instance of "other-regarding preferences". In my experiment, I directly compared the effort levels, across time, of employees in these various contexts. While employees do put in more effort when their wage increases—in any context—they respond with even more effort when this increase is due to a gift and not due to a mandate. The "gift" context provides an initial boost in effort levels directly after the wage increase that endures over time.

These findings do not necessarily suggest a raise in the minimum wage is a bad thing for the nation's economy. Many other factors play an important role in deciding this issue—factors like employment levels are absent from the design of this experiment. However, this study provides an important addition to the literature on the economic effects of increasing the minimum wage. Policymakers must understand that when increasing wages via legislation will

not have the same effect on worker productivity as pay raises in other contexts, and they must take this into account when deciding on policies pertaining to the minimum wage.

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Appendix

Table (1): Summary Statistics of Control Variables across Treatments

	Control		Gift (Raise Received)	
	mean	sd	mean	sd
Native English	0.6	0.49705	0.83333	0.37582
Female	0.42857	0.5021	0.46667	0.5031
Observations	35		60	
	Mandate		Gift (Raise Not Received)	
	mean	sd	mean	sd
Native English	0.85	0.35932	0.86957	0.33826
Female	0.55	0.50063	0.48696	0.50202
Observations	80		115	

Table (2): Regression of Effort Levels over Time

	(3) Effort	(4) Effort
Round	1.863*	1.863*
	(2.58)	(2.57)
Treatment	6.715*	6.216*
	(2.42)	(2.28)
Treatment*Round	-0.463	-0.463
	(-0.53)	(-0.53)
Female		-6.447*
		(-2.38)
Native		2.279
		(0.77)
_cons	25.50***	27.10***
	(16.79)	(8.69)
N	420	420

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table (3): T-Tests on Survey Questions across Treatments

	Gift (Received) Vs. Control	Mandate Vs. Control	Gift (Not Received) Vs. Control
OwnGenerosity	0.292	0.303	-0.0863
	(1.54)	(1.92)	(-0.40)
EmployerGenerosity	1.142***	0.903***	-0.239
	(6.06)	(5.09)	(-1.51)
FairWage	-0.343	-0.0929	-0.0298
	(-1.22)	(-0.52)	(-0.18)
RoundMostEffort	0.693*	0.355	-0.683*
	(2.34)	(1.22)	(-2.50)
RoundLeastEffort	-1.302***	-0.511	0.210
	(-3.78)	(-1.49)	(0.69)
N	95	115	150

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Attachment (1): Experiment Instructions

Decision Making Study Instructions

Overview:

Welcome, you will be participating in an economics experiment that aims to learn more about the nature of labor markets. Participation should take less than one hour and payment will be given at the conclusion of the experiment. Throughout the duration of the experiment, please do not talk to the other participants and do not use your cell phones or other electronic devices.

For this experiment, you will be randomly assigned into groups of six, with each group containing one “employer” and five “employees”. At the beginning of the experiment, you will be randomly assigned as either an employer or an employee. You will be notified of your position assignment in the beginning of this experiment.

Throughout the five rounds of the game, employees will be working on a computer task. The earnings of the employer will be determined by the performance of employees on this task, and the earnings of the employees will be determined by wages selected by the employer. At the end of the experiment, one round out of the five will be selected at random for payment.

Role of the “Employee”:

At the beginning of each round, employees will be told their wage for the upcoming round of work. This wage will be set by the employer of each group, under certain restrictions imposed by the experimenter that will be communicated to all participants prior to each round. Then, employees will participate in an electronic slider task. Employees will see on their screens a series of electronic “sliders”. You must then

drag the electronic slider to the number 50, stated on the screen. For each “slide” completed, the employer will receive $0.30. The payout of the employee DOES NOT depend on the number of sliders that employee completes. The number of slides completed by an employee determines only the payout of the EMPLOYER. The only determinant of an employees payout is the wage assigned by their employer.

Employees will have four minutes in each round to complete as many sliders as they can. The payout of an employee for any given round is the wage set by the employer for that round.

You will complete five rounds of work, and one round will be randomly chosen as the round for pay-out at the end of this experiment.

Role of the “Employer”:

At the beginning of each round, the employer of each firm will be given $8 for each employee in their firm. The employer must then select a wage to pay each employee. This wage will be selected under certain restrictions imposed by the experimenter that will be communicated to all participants prior to the start of the round. The employer’s earnings for each round will be determined as follows by the efforts of **one** randomly selected employee:

Earnings = $8 – (Wage of Radom Employee) + $0.30(# of sliders completed by Random employee)

That is, the earnings of the employer will be determined by subtracting the wage chosen for the randomly selected employee from the initial $8, and then adding $0.30 for each slide completed by that randomly selected employee. Employers will not be able to see the output of employees for any previous or current rounds. Employers will

also not be shown their pay-out of any rounds except for at the end of the experiment, when they will be notified of their pay-out for the randomly select round for payment.

Payment:

At the conclusion of the experiment, participants will be notified of a random round selected for payment. Employers will receive their assigned wage for this round in addition to a $5.00 show-up fee. Employees will be notified of a random employee selected for the calculation of their earnings as determined by the above underlined equations, in addition to a $5.00 show-up fee.

Quiz

1. Suppose you are randomly assigned as an employee. Your payment at the end of this experiment depends on:
   a) The wage assigned by the employer of your group
   b) The # of sliders you complete
   c) The # of sliders completed by others in your group

2. Suppose you are randomly assigned as an employer. Your earnings depend on (check all that apply):
   a) The wage you assigned a randomly selected employee
   b) The wages you assigned to all employees in your group
   c) The efforts of a randomly selected employee
   d) The efforts of all employees in your group

3. True or False: You will be paid based on all rounds of the experiment

4. True or False: You will be paid a show-up fee of $5 in addition to your other earnings

Instructions seen on screen by participants during the GIFT treatment:

Beginning of Rounds 1-2:

Read out loud by proctor: For this round, all employers are mandated to pay a wage of $5 to each employee.

Employers see: You must now assign wages to your employees. You have 5 employees. For this round you are mandated to pay each employee $5. Remember you have been given $8 to spend on each employee's wage. Your payment will be calculated using the formula: $8 - WAGE + $0.30*(# of sliders) for one randomly selected employee.

Employees see: Your employer is currently selecting your wage. For this round the experimenter has mandated that all wages be set at $5.

Beginning of Round 3:

Read out loud by proctor: For this round, employers have the choice to increase the wage of each employee from $5 to $8. This wage increase will stay in effect for rounds 3 through 5.

Employers see: You may now choose whether or not to increase the wages of any employees from $5 to $8. Keep in mind employees will see the wage you choose. Employees may decide to work more and complete more sliders if you decide to increase their wages. The wage you select now will stay in effect for rounds 3 through 5. Remember you have been given $8 to spend on each employee's wage. Your payment will be calculated using the formula: $8 - WAGE + $0.30*(# of sliders) for one randomly selected employee.

Employees see: Your employer now has the option to increase your wage from $5 to $8. Please wait while they decide.

Beginning of Rounds 4-5:

Read out loud by proctor: For this round, wages will remain the same as the wages chosen by employers in round 3.

Employers see: For this round, wages will remain the same as you selected in Round 3. Remember you have been given $8 to spend on each employee's wage. Your payment will be calculated using the formula: $8 - WAGE + $0.30*(# of sliders) for one randomly selected employee.

Employees see: Your wages for this round will remain the same as the wages set from Round 3.

Instructions seen on screen by participants during the MANDATE treatment:

Beginning of Rounds 1-2:

Read out loud by proctor: For this round, all employers are mandated to pay a wage of $5 to each employee.

Employers see: You must now assign wages to your employees. You have 5 employees. For this round you are mandated to pay each employee $5. Remember you have been given $8 to spend on each employee's wage. Your payment will be calculated using the formula: $8 - WAGE + $0.30*(# of sliders) for one randomly selected employee.

Employees see: Your employer is currently selecting your wage. For this round the experimenter has mandated that all wages be set at $5.

Beginning of Round 3:

Read out loud by proctor: All employers are now mandated to increase the wages of all employees from $5 to $8. This increase will stay in effect for rounds 3 through 5.

Employers see: You are now mandated to increase the wages of any employees from $5 to $8. This new wage will stay in effect for rounds 3 through 5. Remember you have been given $8 to

spend on each employee's wage. Your payment will be calculated using the formula: $8 - WAGE + $0.30*(# of sliders) for one randomly selected employee.

Employees see: Your employer now has now been mandated by the experimenter to increase your wage from $5 to $8. Please wait while they decide.

Beginning of Rounds 4-5:

Read out loud by proctor: For this round, wages will remain the same as the wages in round 3.

Employers see: For this round, wages will remain the same as in Round 3. Remember you have been given $8 to spend on each employee's wage. Your payment will be calculated using the formula: $8 - WAGE + $0.30*(# of sliders) for one randomly selected employee.

Employees see: Because the wage increase mandate is still in effect, your wages will remain the same as they were in round 3.

Instructions seen on screen by participants during the CONTROL treatment:

Beginning of Rounds 1-5:

Read out loud by proctor: For this round, all employers are mandated to pay a wage of $5 to each employee.

Employers see: You must now assign wages to your employees. You have 5 employees. For this round you are mandated to pay each employee $5. Remember you have been given $8 to spend on each employee's wage. Your payment will be calculated using the formula: $8 - WAGE + $0.30*(# of sliders) for one randomly selected employee.

Employees see: Your employer is currently selecting your wage. For this round the experimenter has mandated that all wages be set at $5.

Attachment (2): Screenshot of Slider Task